

## Claims

1. A method of producing a cordierite ceramic honeycomb comprising the steps of: preparing raw materials becoming cordierite and forming agents; adding the forming agents into the raw materials becoming cordierite ; mixing the forming agents and the raw materials to obtain a raw material batch; extruding the raw material batch to obtain a formed body; drying the formed body; and sintering the formed body after drying; so as to obtain a honeycomb structural body having a cordierite crystal phase as a main ingredient, wherein, at the sintering step, a temperature descending rate at least from a maximum temperature to 1300°C is not larger than 100°C/hour.

2. The method of producing a cordierite ceramic honeycomb according to claim 1, wherein quartz is used in the raw material batch becoming cordierite and alumina having an average particle size larger than 2  $\mu\text{m}$  is used.

3. The method of producing a cordierite ceramic honeycomb according to claim 1 or 2, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than  $0.4 \times 10^{-6}/^{\circ}\text{C}$  and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than  $0.6 \times 10^{-6}/^{\circ}\text{C}$ , in a temperature range from 40°C to 800°C.

4. The method of producing a cordierite ceramic honeycomb according to one of claims 1-3, wherein a thermal expansion coefficient along A-axis of the cordierite ceramic honeycomb is not larger than  $0.3 \times 10^{-6}/^{\circ}\text{C}$  and a thermal expansion coefficient along B-axis of the cordierite ceramic honeycomb is not larger than  $0.5 \times 10^{-6}/^{\circ}\text{C}$ .

5. The method of producing a cordierite ceramic honeycomb according to one of claims 1-4, wherein a porosity of the cordierite ceramic honeycomb is larger than 30%.

6. The method of producing a cordierite ceramic honeycomb according to one of claims 1-5, wherein lauric acid potash soap is used as the forming agent.

7. The method of producing a cordierite ceramic honeycomb according to one of claims 1-6, wherein a temperature descending rate from the maximum temperature to 1250°C is not larger than 50°C/hour.

8. The method of producing a cordierite ceramic honeycomb according to one of claims 1-7, wherein a temperature maintaining time at the maximum temperature is not less than 6 hours.

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